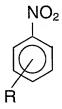
20

We claim:

- 1. A process for the production of *ortho*-aminophenols from nitroarenes using a biocatalyst consisting of a nitroreductase enzyme that initially reduces said nitroarene to the corresponding hydroxylaminoarene and a mutase enzyme that converts said hydroxylaminoarene to said *ortho*-aminophenol, and recovering a fraction containing
- hydroxylaminoarene to said *ortho*-aminophenol, and recovering a fraction containing said *ortho*-aminophenol.
 - 2. The process of claim 1 using whole cells which provide said enzymes.
 - 3. The process of claim 1 wherein said enzymes are partially purified.
 - 4. The process of claim 1 wherein said enzymes are expressed from cloned genes.
- 5. The process of claim 1 wherein said nitroarene has the formula



wherein R is selected from the group consisting of -H, -OH, -COOH, $-C_nH_{2n+1}$, $-C_6H_5$, -X, $-CX_3$, -CHO, $-OC_nH_{2n+1}$, and $-O-C_6H_5$, wherein n ranges from 1 to 6 and wherein X is F, CI, Br or I.

- 6. The process of claim 2 wherein said cells are *Pseudomonas pseudoalcaligenes* strain JS45.
 - 7. The process of claim 6 wherein said enzymes are partially purified.
 - 8. A process for the production of *ortho*-aminophenols from nitroarenes which comprises transforming said nitroarene to the corresponding hydroxylaminoarene with a metal catalyst and transforming said hydroxylaminoarene to said *ortho*-aminophenol using a biocatalyst consisting essentially of a mutase enzyme that converts said

hydroxylaminoarene to said *ortho*-aminophenol, and recovering a fraction containing said *ortho*-aminophenol.

- 9. The process of claim 8 wherein said metal is zinc.
- 10. The proces of claim 8 wherein said mutase enzyme is HabA expressed in recombinant bacteria.
- 11. The proces of claim 8 wherein said mutase enzyme is HabB expressed in recombinant bacteria.